

Application No.: 09/626026

Case No.: 54942US002

**REMARKS**

Claims 45 and 49-56 are pending.

**§ 102 Rejections**

Claims 45, 41 and 56 stand rejected under 35 USC § 102(e) as being anticipated by U.S. Patent Number 6,440,405 to Cooper et al. ("Cooper"). The Examiner state that Cooper teaches the elements of the claims and points to the dendrimers in Cooper, which the Examiner states are polyurethane derived from polyisocyanates and polyactive H compounds with end capped quartering atrium corbel groups.

However, the Examiner has erred in his interpretation of the Cooper reference. The present claims are directed to a polyurethane polymer at least partially endcapped at a terminal position with a group including at least one antimicrobial quaternary ammonium group. In Cooper, quaternary ammonium groups may be part of the dendrimer, however, the dendrimers are not polyurethanes. See Col. 6, lines 26-44 of Cooper. Additionally, Cooper defines a Dendrimer at Column 7, lines 19-32. As Cooper has defined a Dendrimer, it can not be a polyurethane since dendrimers are formed in generations from a central core. Polyurethanes, on the other hand are formed from two components- a polyol and a polyisocyanate. Therefore, nothing in Cooper teaches a polyurethane polymer at least partially endcapped at a terminal position with a group including at least one antimicrobial quaternary ammonium group. See also Col. 9, lines 57-67, that the functionalized Dendrimers are not polyurethanes and Col. 11, lines 16-37.

Cooper does suggest at col. 11 lines 31-36 a method of preparing quaternary functional dendrimers that may be used for functionalizing polyurethanes which involves leaving free halide groups. The polyurethanes that Cooper is referring to are presumably the same polyurethanes discussed at Col. 4 lines 46-60 where he discusses functionalizing surfaces such as polyurethane surfaces. Such surfaces would not be soluble and since the dendrimer is "immobilized" on said surface it too must be insoluble. Furthermore, there is no disclosure of placing the quaternary ammonium groups at the terminal position of the polyurethane. In fact, Example IV illustrates grafting a dendrimer to a polyurethane by making the anion of a polyurethane polymer by abstracting the urethane hydrogen with sodium hydride. The urethane anion is subsequently

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reacted with the dendrimer. Since the dendrimer emanates from a urethane group it cannot be a terminal group.

The rejection of claims 45, 41 and 56 under 35 USC § 102(e) as being anticipated by Cooper has been overcome and should be withdrawn.

### **§ 103 Rejections**

Claims 45, and 49-56 stand rejected under 35 USC § 103(a) as being unpatentable over U.S. Patent Number 4,110,286 to Vandegaer ("Vandegaer").

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.

Vandegaer takes an emulsified pre-polymer and forms a stable polymer latex; that is, the polymer particles form a stable dispersion in water. Thus, the polymer compositions of Vandegaer must be water *insoluble*. Nothing would therefore motivate one of skill in the art to modify Vandegaer as suggested by the Examiner. Vandegaer fails to teach or suggest the polymeric composition, soluble in water, defined by claim 45, and the rejection of claim 45 should be withdrawn.

In view of the above, it is submitted that the application is in condition for allowance. Reconsideration of the application is requested.

Respectfully submitted,

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